U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON SPACE AND AERONAUTICS

HEARING CHARTER

Building and Maintaining a Healthy and Strong NASA Workforce

Thursday, May 17, 2007
10:00a.m. – 12:00 p.m.
2318 Rayburn House Office Building

Purpose:

On Thursday, May 17, 2007 at 10:00 am, the House Committee on Science and Technology, Subcommittee on Space and Aeronautics will hold a hearing to examine National Aeronautics and Space Administration (NASA) workforce issues and the recommendations of independent review panels for ensuring the health and vitality of the NASA workforce in the 21st century. This is the first in a series of NASA workforce hearings. Later hearings will address Shuttle transition workforce issues and specific legislative proposals.

Witnesses:

Witnesses scheduled to testify at the hearing include the following:

Ms. Toni Dawsey
Assistant Administrator for Human Capital Management, NASA

Mr. John G. Stewart
Fellow, National Academy of Public Administration, Member, NASA Multisector Workforce Panel

Dr. David Black
Co-chair, Committee on Meeting the Workforce Needs for the National Vision for Space Exploration, National Research Council

Dr. Lee Stone
Legislative Representative, NASA Council of IFPTE Locals, International Federation of Professional and Technical Engineers

BACKGROUND

Potential Issues

The following are some of the potential issues that might be raised at the hearing:

- ***Is NASA's Workforce Strategy the Right Approach for Building the NASA Workforce?---****NASA is undertaking a sizeable shift of programmatic activities as the agency endeavors to carry out the President's Vision for Space Exploration. Specifically, NASA is in the midst of the following changes:*

  - *Implementing the Vision for Space Exploration*
  - *Retiring the Space Shuttle by 2010;*
  - *Completing the International Space Station;*
  - *Developing the Orion Crew Exploration Vehicle (CEV) and the Ares Crew Launch Vehicle (CLV);*
  - *Refocusing the aeronautics program;*
  - *Dealing with a flatter funding profile than previously assumed; and*
  - *Encountering a growing, retirement-eligible workforce.*

  These changes will have a significant impact on the NASA workforce in large part because the agency has not developed a human space transportation system in over 25 years. Pursuant to the NASA Authorization Act of 2005, the Agency has developed a Workforce Strategy to ensure that NASA possesses a workforce of the appropriate size and skills to carry out its programs. However, the strategy only covers the period through FY2011. Is NASA's Workforce Strategy the right approach for building NASA's future workforce? How well does the strategy address the two recent independent reports on NASA's workforce--the National Academy of Public Administration's (NAPA) <u>NASA: Balancing a Multisector Workforce to Achieve a Healthy Organization</u> and the National Academies' <u>Building a Better NASA Workforce: Meeting the Workforce Needs for the National Vision for Space Exploration</u>? What, if any, gaps or shortcomings do the reports identify in the Workforce Strategy, and what actions does NASA plan to take in response?

- *NASA's Workforce Strategy and Long-Term Planning*---*NASA's Strategy states that "The workforce strategy allows NASA to deal effectively with the critical issues now facing the Agency, particularly a significant amount of uncovered capacity* [workers whose time is not allocated to projects at 100 percent].... *NASA does recognize that some future events, such as the termination of the Space Shuttle Program, require long-term planning...." On the other hand, the Strategy notes that "Planning is a task requiring sensitivity to ongoing changes in programs, budgets, political priorities, and the labor market." What are the underlying assumptions on which the strategy was developed? Was the strategy aimed at responding to near-term workforce challenges, and if so, is the existing strategy sufficient for long-term planning? NASA has developed a strategic plan that outlines the agency's goals and programs for the next decade. Does NASA have a workforce strategy and implementation plan that supports the agency's strategic plan? How robust is the Workforce Strategy against potential changes in resources and priorities that Congress or a new Administration might have for NASA?*

- *Workforce Strategy and NASA's Contract Workforce*—*NASA's Workforce Strategy reflects an analysis of competencies and approaches for building and strengthening the agency's 18,000 civil servant workforce. However, the agency also relies on some 44,000 contractors to execute its projects. The National Academies report states that "in the short-term, NASA does not possess the requisite in-house personnel with the experience in human spaceflight systems needed to implement the VSE* [Vision for Space Exploration].... *Much of the workforce on which NASA has historically relied, and will continue to rely, exists outside the agency..." in industry and at universities. Does NASA plan to include contractors and academic researchers in its strategic workforce decisions? How is NASA making long-term decisions about the number of contractors it may need, at which centers, and for which competencies, skill areas, and positions it will need those contractors? Does NASA have the right infrastructure and in-house skills for managing contracts and procurements?*

- ***The Pipeline of NASA Workers---****NASA, like other government agencies, has used hiring freezes to control the size of its workforce and avoid Reductions in Force (RIFs). Opportunities to bring entry level civil servants into the workforce depend, in part, on attrition, buy-outs, or acceptances of early-retirement offers. This practice has led to a NASA workforce that is comprised of an increasing number of retirement-eligible workers and an insufficient number of younger workers who can rise to leadership positions in the future. The National Academies report notes that NASA will suffer a long-term shortage of in-house technical expertise in human spaceflight systems if the agency does not take steps to improve the pipeline of future leaders and managers. What steps is NASA taking to ensure a pipeline in its workforce? The independent reports also recommend improvements to NASA's mentoring, internship, cooperative education, and graduate fellow programs in the interest of attracting new talent to NASA. In addition, the National Academies recommends that small science spaceflight programs be used as opportunities to train younger workers and build the skills in program/project management and systems engineering the agency has says it needs. Does NASA plan to make any changes to its training and recruitment programs? How effective are buy-outs and early-retirement offers in opening positions for younger workers, and how is NASA ensuring that those offers do not eliminate individuals with skills that are difficult to replace?*

- ***The Workforce Strategy and NASA***'s ***Aeronautics and Science Programs---****NASA's workforce strategy identifies a moderate diminished need for Full-Time Equivalents [FTEs] in space sciences, biological sciences, physical sciences, among other competencies. The National Academies report recommends that "NASA should assess whether the skill levels of in-house scientists at each field center are appropriate to fulfilling that center's scientific leadership and service responsibilities and should ensure that appropriate efforts are made to maintain the scientific competency and currency of each center's scientific workforce." How well does the strategy address the need to develop and maintain healthy science and aeronautics programs? Were NASA's assessments of needs in the space, biological, and physical sciences based on the agency's understanding of the core capabilities needs and the number of individuals that can meet those core capabilities? Or rather, were NASA's assessments based on the projected resources*

available for those disciplines in view of the agency's other priorities? Does NASA have mechanisms for assessing the research and engineering capabilities needed from universities to support current and potential NASA programs?

- **Other Challenges Facing NASA's Workforce***---During the June 2006 Science Committee workforce hearing, a NASA official testified that the agency had reduced the problem of "uncovered capacity" (workers whose time is not allocated to projects at the 100 percent level) by two-thirds, but still carried significant uncovered capacity. Furthermore, NASA had instituted retraining programs to enable uncovered workers to take on new tasks. What are the causes of uncovered capacity? What is the status of the agency's uncovered capacity and how effective have the retraining programs been? Are NASA's approaches to handling uncovered capacity adequate over the long-term? NASA has reported difficulty in tracking uncovered capacity and the NAPA report notes that NASA does not have a transparent process for monitoring its uncovered capacity; there is no accounting code or tracking of when an employee is uncovered or working on tasks outside his/her competencies. Does NASA plan to make any changes in response to improve its monitoring of uncovered capacity?*

- **Is "Ten Healthy Centers" a Good Idea?***---NASA's Workforce Strategy embraces the goal of maintaining a fully productive workforce at all of its field centers in what it calls "Ten Healthy Centers." Centers have been given new exploration roles but face challenges as they shift from a focus on research or aeronautics, for example, to exploration projects. The National Academies report notes that, "According to NASA, the immediate problem with employees whose primary skills are not currently needed is most significant at the three aeronautics centers (Ames, Glenn, and Langley)." In addition, these centers have been identified as carrying the highest percentages of uncovered capacity. The NAPA report questions "whether the pursuit of ten healthy centers will yield a healthy NASA." What is NASA's definition of a healthy center?   What are the long-term implications of the "Ten Healthy Centers" approach?"*

- ***Supporting Strategic Decisions about the NASA Workforce***---*NASA has assessed its requirements for the categories of workers the agency needs to support its programs. The agency has used an information system--the Competency Management System (CMS)--devoted to workforce planning to conduct this assessment. The independent reports assert that NASA needs more information for its workforce planning, question the adequacy of the CMS, and recommend that NASA develop models for projecting future competency and skill requirements. In particular, the National Academies recommends that more information is needed about the current skills, experience levels and expected attrition of the center workforce. Competencies and experience levels need to be translated into specific positions. What is the status of the CMS and does NASA plan to make any changes to CMS? Will NASA workforce decisions and future planning be based on robust, transparent data and analyses? What information does NASA plan to acquire to support both short-term and long-term workforce decisions and plans?*

- ***Looking Beyond NASA to Build the Future NASA Workforce***—*The NAPA and National Academy reports seem to suggest that NASA's workforce planning would benefit from the same innovation and external partnerships that make the agency's space missions so successful. The National Academies state that "the solution to NASA's workforce issues is not to be found by considering NASA in isolation from the rest of the aerospace ecosystem* [NASA, Department of Defense, industry, and universities].*" NASA should conduct workforce planning in cooperation with other government agencies, industry, and universities. Both independent reports recommend that NASA use interagency partnerships and improve internships and cooperative programs to attract new talent. The National Academies recommends that NASA invest in nontraditional approaches such as the Centennial Challenges program to build public support and train the next generation. NAPA recommends that NASA consider detailing highly skilled technical experts to other agencies during periods when NASA projects do not require those employees' skills. How would such interagency transfers work? How open is NASA to looking beyond itself to address its workforce challenges? What plans does NASA have, if any, for undertaking innovative approaches to strengthen and build its workforce?*

BACKGROUND

This section provides summary information on 1) NASA's current workforce, 2) the NASA Workforce Strategy, 3) the National Academies and National Academy of Public Administration's reports on NASA's workforce, 4) the 109th Congress, Committee on Science's hearing on NASA's workforce held on June 13, 2006, and 5) on the NASA Flexibility Act of 2004.

Current NASA Workforce Demographics

As detailed in Attachment 1, NASA's workforce includes a total of 18,434 civil servants (as of April 2007) and approximately 44,023 contractors (as of April 2006). The largest numbers of civil servants and contractor employees are retained at Johnson Space Center, Kennedy Space Center, Marshall Space Flight Center, and Goddard Space Flight Center, respectively.

Summary of NASA's Workforce Strategy

Pursuant to the NASA Authorization Act of 2005, NASA prepared a Workforce Strategy. The Strategy serves to assess and build a NASA workforce that can achieve the agency's objectives for the Vision for Space Exploration, scientific activities, and aeronautics research. Specifically, the Strategy identifies the factors affecting NASA's workforce:

- Implementation of the Vision for Space Exploration
- Retiring of the Space Shuttle by 2010 and development of the Crew Launch Vehicle and Crew Exploration Vehicle
- A refocusing of aeronautics research program away from technology demonstration and toward long-term basic research
- Increasing numbers of retirement-eligible workers
- Change to full cost management and a resulting need to balance human resources with center workload and project lifecycles

Elements of the Workforce Strategy include:

- The objective of 10 Healthy Centers that maintain a workload to sustain a productive workforce.
- A workforce planning process that involves all levels of management, including center management, and serves as a central component of NASA's strategic, business, and resource planning.
- A set of workforce planning tools including a Competency Management System (CMS) to identify and monitor NASA's knowledge base.   According to the NASA workforce strategy, "Competencies are used to categorize the capabilities of an employee, identify the knowledge requirements of a position or those associated with projects and programs, and forecast the Agency's workforce requirements." In addition, a Workforce Integrated Management System (WIMS) collects and manages NASA's data on the workforce and competency planning.
- An assessment of supply and demand for specific competencies in the workforce between 2006 and 2011, including a projection of the number of FTEs needed at each NASA center from FY2005 – FY2011, based on expected requirements and anticipated funding.

    - NASA identified, based on the assessment, competencies in increasing demand: 1) program/ project management; 2) systems engineering and integration, and 3) mission operations. Primary competencies in decreasing demand are: 1) engineering and science support; 2) management competencies; and 3) paraprofessional business operations, among other functions.
    - The Strategy discusses a problem with "uncovered capacity," that is, employees whose work time is not allocated at 100 percent to project tasks.

- Identified steps for addressing the gap in required competency areas, including approaches for recruiting new talent and for retaining employees who possesses competencies required to fulfill the Agency's objectives.

The Workforce Strategy emphasizes the need for flexibility to reflect new information and changes in policies, plans, resources, and political situations.

Building a Better NASA Workforce: Meeting the Workforce Needs for the National Vision for Space Exploration (National Academies, 2007)

In September 2005, NASA's Associate Administrator for Program Analysis and Evaluation requested that the National Academies "study the long-range science and technology workforce needs of NASA and the larger aerospace science and engineering community to achieve the Vision for Space Exploration…." The report's key conclusions and recommendations are summarized below:

No National Shortage of Skilled Employees to Support the Vision
- There is "no looming national shortage of skilled scientists and engineers to implement the VSE over the long term."
- Low numbers of entry-level NASA workers (25-29 year age range) who can build the experience necessary to implement the Vision over the coming decades raise concern.
- The workforce that NASA has relied on in the past and will continue to rely on resides outside of the agency in universities and industry. NASA will need to approach its outside scientific workforce differently than its outside engineering workforce, because while industry personnel can move among defense, commercial aerospace, and NASA projects, university research talent will be lost if NASA stops supporting scientific research.

NASA Needs to Collect More Data In Order to Assess its Workforce
- NASA has conducted a top-down, headquarters-led assessment of the agency's needs and skills to meet its workforce demands but needs to conduct a bottom-up, center-led "assessment of the current skills, experience levels, and projected attrition of the workforce for each individual center."
- This information should be used to develop a model that will allow the agency to project the skills it needs to develop as well as the competencies and experience levels NASA requires. NASA should translate such competencies and experience levels into specific

positions and projected timeframes of when each center will require those positions.
- NASA should also apply the model to project the mix of skills that could be conducted internally or externally in industry.

Increased Need for Program/Project Managers and Systems Engineers
NASA's requirements for both internal and external scientific and engineering workforce share the common need for "highly skilled program and project managers and systems engineers." Approaches for increasing these capabilities include:
- Leveraging workers with systems engineering and technical experience acquired from robotic science programs for human spacecraft development;
- Providing opportunities for junior-level workers to obtain hands-on flight development experience through low-cost sounding rocket, balloon, and aircraft research projects to develop the program/ project management and systems engineering skills that NASA needs now and in the future.
- Retaining existing employees with much needed program/project and systems engineering skills while also recruiting employees from outside the agency that possess those capabilities.
- Using the NASA Flexibility Act of 2004 and working with Congress and the executive branch to reduce the barriers that enable the flow of skilled employees between industry and NASA.

NASA Should Help Train Its Future Workforce
- NASA should become involved in training its potential workforce, because the agency cannot rely on other government agencies or external institutions to provide "the skills that are unique to the work the agency conducts."
- NASA training programs have languished and need additional support and restructuring. The Graduate Student Research Program (GSRP) establishes a strong link between NASA and university scientists, but similar connections do not exist for engineering and human exploration.
- NASA's Education Program could be used to fund workforce programs including hands-on training opportunities in suborbital programs and small mission programs such as Explorers.

- Nontraditional means of inspiring and training the future workforce such as the Centennial Challenge prizes should also be considered. Many of the programs it mentions---suborbital, GSRP, and Centennial Challenges—do not require large investments and will yield training benefits many times more than the necessary investments.

NASA Workforce Within the Broader Context
- The stability of support for and funding for the Vision will be important to industry's ability to attract and maintain skilled and younger workers to support exploration projects.
- NASA's workforce is not an internal matter but must be considered as part of a national strategy with input from national security government agencies, industry, and universities.

NASA: Balancing A Multisector Workforce to Achieve a Healthy Organization (National Academy of Public Administration, 2007)

In March 2006, the Senate Appropriations Subcommittee and NASA asked the National Academy of Public Administration to conduct a study on NASA's workforce that would focus on 1) the challenges of transitioning from the Shuttle Program to the *Vision,* and 2) acquiring the right balance within its multisector workforce of approximately 18,000 civil servants and 44,000 contractors.

Some of the NAPA study panel's specific concerns are summarized below:

NASA's Dedication to "Ten Healthy Centers"
- The panel noted that "*NASA has not established a comprehensive evaluation process to assess and monitor the long-term health of each center.*" The report introduces a guide for assessing the health of each center and recommends that NASA's Program Analysis and Evaluation Office use the guidelines to evaluate each center annually.
- The panel warns that "*…the potential danger of the ten healthy centers approach is that actions intended to help the struggling centers could harm the other centers. Therefore, supporting all ten field installations could come at the expense of NASA as an agency.*" The panel added that **"*The current and long-term health of the three*

NASA research centers (Ames, Glenn, and Langley) is questionable and should be a core concern of NASA headquarters."

Multisector Balance
- The panel noted that interpretations of responsibilities that are *'inherently governmental,'* and therefore should be conducted by civil servants, differ across the government. The report presents guidelines for deciding whether a position should be filled with a civil servant or a contractor. For decisions on civil servant hires, the report introduces guidelines for determining what kind of appointment should be used: tenured permanent or multi-year term.
- NASA's *Workforce Strategy* is limited to the civil service workforce. It does not address the contractor personnel that comprise two-thirds of the agency's total workforce. "*Although the Strategy is consistent with historical approaches to civil service workforce planning, it was a narrow interpretation of the Congressional mandate for a human capital strategy 'to ensure a workforce of the appropriate size and with the appropriate skills."*
- NASA's Competency Management System (CMS) covers only civil service employees, however, NAPA notes that "*other federal organizations have developed systems to capture aggregate contractor competencies. In June 2006, for example, the Department of National Intelligence (DNI) began to develop a comprehensive competency-based inventory for its civil servants and its "embedded" (on-site) contractors who are doing 'core work."*

Contracting Officer Technical Representatives
- The NAPA panel observes that there is "*An inconsistent definition of the federal acquisition workforce, which often excludes and, by implication may undervalue, Contracting Officer Technical Representatives (COTRs). COTRs are an agency's technical link to ensure that contractors deliver quality products meeting agency specifications, schedules, and costs."* "*The Panel believes that NASA must have more comprehensive information regarding who its COTRs are, what training they have had, what training they need, what parts of their contracting work they are doing effectively and timely, and what responsibilities are perhaps not getting adequate attention."*
- The report also calls attention to a December 2005, NASA Inspector General (IG) report that identified a list of "*trouble areas*" relating to

the contracting process, including problems with the financial management system in tracking contract spending; insufficient transparency in work performed by subcontractors; sizeable cost overruns in some NASA programs, among other concerns. The IG recommended an improved internal control framework, as well as establishing institutional procurement officials accountable for acquisition integrity."

Centralization of Human Resources

- The report notes that "*Until recently, each NASA center had its own tools and processes for workforce strategy and planning, which made it difficult to track uncovered capacity, skill mismatches, and other human capital issues and take appropriate corrective actions.*" Recently NASA has moved to centralize and make uniform its human resources activities through its NASA Shared Service Center. "*By consolidating these services, NASA intends to improve operational efficiency and overall customer service and focus more on its core competencies. NASA has projected annual savings of up to $6.6 million from NSSC, with more than 200 civil service FTE across the four redirected functional areas.*"

Human Resource Tools

- To efficiently manage the anticipated workforce transitions, the NAPA report calls for workforce flexibilities, including "*modified RIF rules, blanket buyout authority with a higher dollar value incentive, and limited statutory authority for emergency retirement reform.*"

Workplace Planning Scope

- The NAPA panel believes that, in light of the considerable uncertainty in mission direction that NASA will receive, NASA's workplace planning should expand from a one to two-year to a five year horizon.
- The panel endorsed a recommendation from a 2005 GAO report (GAO-05-230) to use scenario planning. The planning should be focused and "*Identify the driving forces underlying each likely scenario; Incorporate the scenarios into strategic actions; Identify key events that would indicate a particular scenario is unfolding; Create mechanisms to monitor the environment; Make adjustments to agency strategies based on environmental monitoring; and Identify and*

coordinate overall agency competencies, schedules, and facilities across programs by scenario."

- NAPA learned in October 2006 that NASA's Office of Human Capital Management (OHCM) is working to incorporate scenario planning into the workforce planning process across the five-year budget cycle.

Maintaining Core Skills

- Drawing upon workforce studies conducted by RAND, the panel emphasized the importance of identifying, sizing, and maintaining core competencies. This process requires long-term planning, and according to RAND, analysis of the demand for labor at the skill level over time; understanding and definition of core capabilities; and planning over the long-term to maintain such capabilities.

Human Capital Flexibilities

- The NASA Flexibility Act of 2004 enlarged NASA's workforce flexibilities, yet the Panel notes "*While these flexibilities are important, they are much more modest than those given to the DoD and the Department of Homeland Security (DHS). NASA is subject to such Title 5 requirements as staffing, position classification, compensation, and performance management. For example, it is not authorized to implement pay-banding or performance-based compensation strategies.*"

- The panel recommends that NASA "*Pursue additional statutory and regulatory authorizations to obtain other flexibilities needed to strategically manage the workforce….*" For example, the Panel's 2005 *Human Capital Flexibilities* report recommended that NASA be able to alter its agency's career lifecycle by modifying retirement rules "*to allow the agency to separate an employee eligible for optional retirement if doing so would help it achieve workforce reshaping or downsizing goals.*"

The Competency Management System (CMS)

- Since 2003, NASA has used a Competency Management System (CMS) to document the workforce competencies required by NASA positions and possessed by NASA employees. As NASA has defined it, a competency is not a role or function, but a base level of

knowledge relevant to the agency's mission that defines for a position what knowledge is needed and how it is applied.

- The report notes that "*As presently constituted, CMS is not always as helpful to centers at the personnel hiring level because it does not track directly to positions.*" The panel recommends that NASA "*Strengthen the CMS by integrating it with existing budget tools…with a methodology for translating competency surpluses and deficits into FTE needs.*"

Hearing before the Subcommittee on Space and Aeronautics, Committee on Science, June 13, 2006. "The NASA Workforce: Does NASA Have the Right Strategy and Policies to Retain and Build the Workforce It Will Need?"

During the 109th Congress, the House Science Committee's Subcommittee on Space and Aeronautics examined issues related to NASA's workforce during a hearing held in June 13, 2006.

- Ms. Toni Dawsey, NASA Assistant Administrator for Human Capital Management testified on NASA's workforce challenges including the agency's uncovered capacity and efforts to ensure that employees with critical skills are not lost during buy-outs or early retirement offers. She also discussed the agency's workforce strategy and the importance of human capital tools and flexibility such as the NASA Flexibility Act, cooperative education programs, and intern programs in attracting new talent into the agency.

- Dr. Lee Stone, Legislative Representative from IFPTE and an employee of NASA Ames Research Center testified that NASA does not have the right strategies or policies to build the workforce it needs and that the agency's efforts in workforce planning can only provide short term solutions. The only long-term solution to building a healthy workforce is to reverse the trend in budget cuts to aeronautics, science and exploration programs.

- Dr. David Black, Co-Chair of the National Academies' report on NASA's Workforce testified that, in the view of the Academy committee, NASA's work is incomplete and represents a top-down approach that does not properly reflect the workforce needs of

individual centers. He also noted that the lack of support and budget for the Vision for Space Exploration affects the agency's ability to find the best and brightest employees. Dr. Black noted that if NASA elects to build its workforce internally rather than use outside contractors, the agency will over the next five years face a gap in expertise that cannot be addressed through new hires or in-house employees.

- Mr. John Douglass, President, Aerospace Industries Association testified that that aerospace workforce is aging and that industry is in the process of rebuilding its workforce for the future. He spoke about the use of contractors for short-term projects and civil servants for basic research and development efforts. Mr. Douglass testified that competition for systems engineering skills among industry and other government agencies is of concern. He said that the aerospace industry can absorb more NASA work.

Uncovered Capacity
Subcommittee members probed the issue of uncovered capacity. Ms. Dawsey reported a total of 1000 FTEs were uncovered, which equates to 828 employees. NASA's approach to addressing the problem is to reassign work to those centers with the most significant uncovered capacity and to retrain workers for exploration-related tasks. The union asserted that NASA's uncovered capacity problem had little to do with workforce and much to do with full cost accounting. Dr. Lee Stone testified that NASA managers were diverting labor funds to support hardware procurements, thus creating the problem in uncovered capacity

Competency Management System (CMS)
The IFPTE union called attention to the deficiencies in NASA's CMS system. The system was originally intended to include several databases but so far only includes one. The database in use only captures primary competencies and cannot reflect an employee's secondary skills. In addition, competencies have not been assessed and translated into specific positions.

Balance of In-House Civil Servants and Contractors
The subcommittee also examined the process for making decisions on NASA's use of in-house civil servants versus contractors and the balance

between these elements of its workforce. Ms. Dawsey noted that the agency was seeking guidance on this issue from the National Academy of Public Administration. Dr. Black suggested that NASA look beyond itself and consider the question with the broader aerospace and research community. Dr. Lee Stone referred to the Columbia Accident Investigation Board (CAIB) report and its cautioning on NASA's reliance on contractors for technical support, use of experienced managers for contract oversight rather than technical leadership, and use of inexperienced engineers for management roles.

A Funding Crisis, Not a Workforce Crisis
Members and witnesses alike referred to the fact that NASA's expanding responsibilities are not being met with appropriate resources. As a result, the agency will lose capabilities in science programs, especially life and microgravity sciences and astrobiology, which cannot be easily replaced. Insufficient funding to execute NASA's multiple missions does not present a strong signal to graduate students and young workers who might be considering NASA or NASA-related work as a means to build and grow their careers.

The NASA Flexibility Act of 2004 (P.L. 108 – 201)

The NASA Flexibility Act of 2004 granted a range of increased flexibilities for strengthening NASA's workforce. Under the Act, term appointments could last longer, and conversion from term to permanent appointments was made easier. Recruitment, relocation and retention bonuses were increased, and redesignation bonuses were added. Authority was granted for hiring distinguished scholars and for critical position hiring. The time period for an Intergovernmental Personnel Act (IPA) assignment limit was increased. Travel and transportation reimbursement capabilities, and change of position incentives, were enlarged. Annual leave, and Senior Executive Service (SES), eligibilities also were enlarged. The maximum allowable rate of pay for NASA-excepted (NEX) employees was increased. A scholarship program was established.

The NASA Transition Act of 2007

The NASA Transition Act of 2007 proposes to amend the Space Act of 1958 and The NASA Flexibility Act of 2004. The Transition Act includes two new workforce management tools:

- Authority to offer a permanent employee an incentive for voluntarily converting to a time-limited appointment; and

- Authority to pay the government's share of the Federal Employees Health Benefits Program (FEHBP) premium for employees who separate because their positions are being eliminated or transferred out of the commuting area. This is expected to result in a greater number of employees being willing to separate voluntarily.

- Specific provisions of the legislation would terminate in 2010.

Attachment 1

Total NASA Civil Service Workforce
as of April 28, 2007

CS Head Count	JSC	KSC	MSFC	GSFC	LARC	GRC	ARC	DFRC	SSC	HQ	NSSC	Total
Full-Time Permanent	2,842	1,769	2,333	2,966	1,787	1,535	1,136	430	255	1,181	106	**16,340**
Part-Time Permanent	23	14	14	42	11	20	3	9	1	6	0	**143**
Term Appointment	389	280	170	118	85	56	77	70	9	24	0	**1,278**
Student	166	69	40	97	34	37	6	26	7	1	0	**483**
Other Non-Permanent	6	5	1	4	7	0	0	10	1	65	0	**99**
All Employees	**3,426**	**2,137**	**2,558**	**3,227**	**1,924**	**1,648**	**1,222**	**545**	**273**	**1,277**	**106**	**18,343**

This is total Civil Service workforce, including individuals on extended leave without pay.

NASA On-site and Near-site Contractor and Other Workyears - FY 2006 FAIR Act Inventory
as of June 30, 2006

	JSC	KSC	MSFC	GSFC	LARC	GRC	ARC	DFRC	SSC	HQ	NSSC	JPL	Total
Contractor WYE	12,645.0	10,381.0	3,583.0	4,838.0	1,459.0	1,353.0	1,130.0	468.0	1,386.0	725.0	145.0	237.4	**38,350.4**
JPL CalTech FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,230.0	**5,230.0**
IPA FTE	6.0	2.0	12.0	8.0	3.0	1.0	8.0	0.0	3.0	42.0	0.0	0.0	**85.0**
Grantee FTE	0.0	0.0	85.0	103.0	41.0	90.0	34.0	0.0	0.0	5.0	0.0	0.0	**358.0**
Total	**12,651.0**	**10,383.0**	**3,680.0**	**4,949.0**	**1,503.0**	**1,444.0**	**1,172.0**	**468.0**	**1,389.0**	**772.0**	**145.0**	**5,467.4**	**44,023.4**

Notes
Data source is the annual Federal Activities Inventory Reform (FAIR) Act inventory
Data is in the form of FTE (Full-Time Equivalent employees) and WYE (Work Year Equivalent employees)
Data includes contractor WYE that are on-site at NASA Centers or near-site
Data will be updated for FY 2007 on June 30, 2007
Grantees are NASA grantees working on-site
IPA are Intergovernmental Personnel Act assignees working at NASA Centers
Per OMB instructions, Civil Service FTE matches President's Budget